

ABSTRACT

The invention relates to a microscope, in which a layer of the sample is illuminated by a thin strip of light (11) and the sample is viewed (5) perpendicular to the plane of the strip of light. The depth of the strip of light (11) thus essentially determines the depth of focus of the system. To record the image, the object (4) is displaced through the strip of light (11), which remains fixed in relation to the detector (8), and fluorescent and/or diffused light is captured by a planar detector. Objects (4) that absorb or diffuse a large amount of light are viewed from several spatial directions. The three-dimensional images, which are captured from each direction can be combined retrospectively to form one image, in which the data is weighted according to its resolution. The resolution of the combined image is then dominated by the lateral resolution of the individual images.